ABSTRACT OF DISCLOSURE

An apparatus for and a method of simultaneously performing edge detection and enhancement without any additional memory storage include an image sensor sensing an image to output image data, a line buffer receiving the image data to output the image data, a register storing the image data transmitted from the line buffer, an interpolation unit performing an interpolation operation on the image data received from the register, an edge detection unit perform an edge detection operation on the image data received from the register to output an edge detection signal in parallel to the interpolation operation of the interpolation unit according to a selection signal representing a pattern of the image data stored in the register, and an edge enhancement unit enhancing an output of the interpolation unit according to the edge detection unit of the edge detection unit.